

CLAIMS

1. Floor for a cargo compartment (2) of an aircraft,  
comprising  
5 panels or similar flat floor elements (51, 51')  
for the attachment of roller elements (11), ball  
elements (12), latches (13), PDUs (14) or similar  
functional units,  
10 floor beams (16) or similar supporting elements  
for supporting the floor elements (51, 51') and for  
connection to a body or a skin (1) of the aircraft,  
characterized in that the floor elements (51, 51')  
are fixedly connected to the supporting elements  
15 (16) to form prefabricated floor modules (50, 50')  
and the floor modules (50, 50') can be installed in  
the aircraft.
2. Cargo-compartment floor according to Claim 1,  
characterized in that the functional units (11-14)  
20 are mounted on the floor element (51, 51') of the  
floor modules (50, 50').
3. Cargo-compartment floor according to one of the  
preceding claims, in particular according to Claim  
25 2, characterized in that electrical and/or  
mechanical control devices (20) for controlling the  
functional units, in particular the PDUs (14), are  
provided and are connected to the functional units.
- 30 4. Cargo-compartment floor according to one of the  
preceding claims, in particular according to Claim  
3, characterized in that transmission sockets (21)  
or similar connecting devices for transmission are  
provided and attached to the floor modules (50) in  
35 such a way that they can be connected to

correspondingly shaped transmission connectors on an adjacent floor module (50').

5. Cargo-compartment floor according to one of the preceding claims, characterized in that sections of cable channels (23), hydraulic conduits (25), water conduits (26), electrical leads (27) or similar conducting devices are provided in the floor modules (50) in such a way that together with similar conducting devices in adjacent floor modules (50') they form overall conducting systems when the floor modules (50, 50') have been installed in the aircraft.
6. Cargo-compartment floor according to one of the preceding claims, in particular according to Claim 5, characterized in that the conducting devices (23, 25-27) comprise branches (28) that provide a connection to prespecified places on the floor elements (51) and/or the functional units (11-14).
7. Cargo-compartment floor according to one of the preceding claims, characterized by assembly elements (30) on the floor modules (50) or floor elements (51) to provide a mechanically secure connection to adjacent floor modules (50') or floor elements (51') during or after installation in the aircraft.
8. Cargo-compartment floor according to one of the preceding claims, characterized by inspection and/or installation openings (34) in the floor elements (51) that can be closed by floor-element sections (35) and are provided to make accessible a bilge space (4) below the floor elements (51).
9. Cargo-compartment floor according to one of the preceding claims, in particular according to Claim

8, characterized in that the floor-element sections (35) can be fixed to the floor elements (51) by means of fast-action closure devices (38).

- 5 10. Cargo-compartment floor according to one of the preceding claims, characterized in that the floor elements (51) comprise sealing devices (40) to create a tight seal between a space above and a space below the floor elements (51).
- 10 11. Cargo-compartment floor according to one of the preceding claims, characterized by leakproof connecting elements (43, 44) for the leakproof connection of the floor elements (51) to adjacent floor elements (51') and/or to the skin (1) of the aircraft.
- 15 12. Cargo-compartment floor according to one of the preceding claims, characterized by drainage devices (46) to conduct fluids out of the cargo compartment (2) and to transfer the fluid into corresponding drainage devices associated with adjacent floor modules (50').
- 20 13. Cargo-compartment floor according to one of the preceding claims, characterized in that the floor modules (50) comprise floor panels (52) or similar surfaces on which people can walk.
- 25 14. Cargo-compartment floor according to one of the preceding claims, characterized in that the floor modules (50) comprise insulation devices (53) to insulate a lower half (6) of the fuselage.
- 30 15. Cargo-compartment floor according to one of the preceding claims, in particular according to Claim
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14, characterized in that the insulation devices (53) are disposed below the floor elements (51) and/or in the region of the supporting elements (16) near the skin (1) of the aircraft.

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16. Cargo-compartment floor according to one of the preceding claims, characterized in that the floor modules (50) comprise bulkheads or similar partitions (54) or fixation devices (55) for  
10 attaching partitions (54).

17. Cargo-compartment floor according to one of the preceding claims, in particular according to Claim 16, characterized in that the partitions (54) are  
15 made at least in part of ballistically resistant material.

18. Cargo-compartment floor according to one of the preceding claims, characterized in that the floor  
20 modules (50) comprise EE racks or similar mounting devices (56) for electronic components and/or fixation devices (57) and connecting devices for said components.

25 19. Cargo-compartment floor according to one of the preceding claims, characterized in that the floor modules (50) comprise water tanks (58) and/or waste-water tanks (59) and/or fixation devices (60) and/or connecting devices for said tanks.

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20. Cargo-compartment floor according to one of the preceding claims, characterized in that the floor  
modules (50) comprise wall linings and/or ceiling  
linings or similar lining elements (62) or mounting  
35 devices (63) for said elements, for lining the cargo compartment (2).

21. Cargo-compartment floor according to one of the preceding claims, characterized in that the floor modules (50) are constructed and fastened to the skin (1) of the aircraft in such a way that after installation in the aircraft they can be removed again in an arbitrary sequence.
22. Method for assembly of a floor for a cargo-compartment of an aircraft, comprising the following steps:
- Attachment of panels or similar flat floor elements, which are provided for the fixation of roller elements, ball elements, latches, PDUs or similar functional units to floor beams or to similar supporting elements provided to support the floor elements and to be connected to a body or a skin of the aircraft, so that the floor elements together with the supporting elements form prefabricated floor modules that can be handled as a unit;
  - Lifting a floor module into the cargo compartment;
  - Fastening the supporting elements to the body or skin of the aircraft;
  - Repetition of the above steps until the floor of the cargo compartment has been completed.
23. Method according to Claim 22, characterized by the step: mounting the functional units on the floor element before the latter is lifted into the cargo compartment.
24. Method according to one of the claims 22 or 23, characterized by a connecting step that follows the step of lifting into the cargo compartment and in which

-control devices to control the functional units,

-cable channels, hydraulic conduits, water conduits, electrical leads or similar conduction devices, and/or

-drainage devices to conduct fluids out of the cargo compartment are connected to corresponding control devices, conducting devices and drainage devices associated with an adjacent floor module that has been fixed within the cargo compartment.

25. Method according to one of the claims 22-24, in particular according to Claim 24, characterized in that at least parts of the connecting step are performed prior to the final fixation of the supporting elements to the body or the skin of the aircraft.